

Notice of Allowability

Application No.

10/811,376

Applicant(s)

HAMPSHIRE ET AL.

Examiner

Art Unit

Javid A. Amini

2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/16/2007.
2. ☒ The allowed claim(s) is/are 1-57.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

An examiner's amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Matthew C. Phillips on 10/29/2007.

The application has been amended (claims 1, 8-9, see underlined) as follows:

Claim 1.

A machine vision method comprising:

sensing light energy associated with a scene, wherein the sensing step comprises measuring three primary color values, wherein the three primary color values are red, green, and blue, wherein the red value is denoted r , the green value denoted g , and the blue value denoted b ;

generating color image data representing at least a portion of the scene, wherein the data are arranged as pixels, and the data for a given pixel comprise an intensity value, a hue value, and a chroma value, the intensity value representing the total sensed light energy associated with the pixel, the hue value representing a dominant or average frequency of the light energy associated with the pixel, and the chroma value representing a measure of the light energy on a side of the visible spectrum complementary to the hue, wherein the generating step comprises converting the three primary color values for the given pixel to a set of values comprising the chroma value, the hue value, and the intensity value, and the converting step comprises determining the intensity value (I) in at least approximate accordance with the relation:

$I = \sqrt{r^2 + g^2 + b^2}$; and rendering said color image data, wherein the converting step further comprises:

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determining a quantity (β) in at least approximate accordance with the relation:

$$\beta = \cos^{-1} \left(\frac{2r - g - b}{2\sqrt{I^2 - rg - rb - bg}} \right); \text{ and}$$

determining the hue value (H) in at least approximate accordance with the relation:

$$H = \begin{cases} \beta, & g > b \\ 2\pi - \beta, & \text{otherwise} \end{cases}$$

Claim 8 is cancelled.

Claim 9 (renumbered as a claim 5 now). The method of claim [8] 1, wherein one or more of the determining steps is accomplished by table look-up.

Allowable Subject Matter

Claims 5-8, 18-23, and 53 are cancelled. Claims 1-4, 9-17, 24-52, 54-68 are allowed. The new renumbered claims are 1-57.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A. Amini whose telephone number is 571-272-7654. The examiner can normally be reached on 8-4pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on 571-272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner
Art Unit 2628

J.A.

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KEE M. TUNG
SUPERVISORY PATENT EXAMINER